warfarin and bromadiolone are used in the field, as wax cake formulations, bromadiolone was more effective compared to warfarin.

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6. LABORATORY EVALUATION OF CHOLECALCIFEROL AGAINST *MUS MUSCULUS* (BLYTH)

Introduction

Rodents are one of the major vertebrate pests causing considerable damage to crops, stores, godowns and other articles of human value. At present there is a diverse selection of excellent rodenticides available for rodent control. Cholecalciferol is both a single and multiple feeding toxicant effective on *Mus musculus, Rattus rattus* and *Rattus norvegicus* (Marshall 1984). Cholecalciferol (vit. D_3) is closely related with calciferol (vit. D_2). The efficacy of calciferol against warfarin resistant and non-resistant rats and mice were reported by Renninson (1974), Rowe *et al.* (1974) and Muktha Bai *et al.* (1978). In the present investigation the toxicity and palatability of cholecalciferol (vit. D_3) were evaluated against *Mus musculus* (Blyth) in choice feeding test.

Material and Methods

Choice feeding test was carried out in the laboratory against *Mus nusculus* (Blyth). Prior to the experimentation, animals were acclimatized for 15 days. They were fed on mice feed (Brooke Bond Lipton India Ltd.) and water *ad libitum.* Thirty Six healthy individually caged animals were weighed and sexed (18 Males and 18 Females). After 24 hr of starvation they were exposed to poison and plain baits. The poison baits were prepared in broken bajra *(P. typhoides)* mixed with 3% til oil (*Sesamum indicum*). The plain baits contained broken bajra mixed with 3% til oil only. The period of exposure was 24 hr only. The left over and spilled food were weighed the next day. After exposure the animals were kept on mice feed and water *ad libitum.* The observations were made up to 15 days.

Table 1
TOXICITY OF CHOLECALCIFEROL (VIT. D_3) AGAINST *Mus musculus* (BLYTH) [CHOICE FEEDING TEST]

Conc. of VIT. D_3 %	Exposure Period Hr	Weight of Mice (Blyth) Mean ± S.E. [g]	Bait consumption [g/kg.b.wt.] Mean ± S.E.		Active Ingredient mg/kg.b.wt. Mean ± S.E.	% mortality	Days to Death	
			Plain Bait	Poison Bait			Mean	Range
0.075	24	31.4±4.2	103.5±4.1	91.29±6.0	68.4±2.28	100	4.15	2.9-5.4
0.05	24	33.0±3.9	101.7±4.3	94.22±4.3	47.0±2.4	100	4.59	3.0-6.19
0.025	24	30.6±4.4	100.35±6.0	97.14±6.6	24.03±2.4	50	11.00	7.0-15

Results and Discussion

The results of the investigation are summarized in the Table 1. Since non-significant ($P > 0.05$) sex difference in mortality was found, hence mortality data for both sexes was combined for analysis. The observations evidently indicate that cholecalciferol gives good results against *Mus musculus* (Blyth). It further indicated that the lower concentration 0.025% of cholecalciferol yielded 50% kill in the range of 7-15 days, where as both the higher concentrations (0.075 and 0.05%) resulted in cent per cent mortality in the range of 2.9-5.4 and 3-6.19 days respectively. The consumption of poison bait reveals its good acceptability and palatability. Poisoning symptoms were noticed after 48 hr exposure which involve sluggishness, crawling movement, pulmonary distress and loss in body weight. Field studies have also revealed that cholecalciferol (vit. D_3) gives 94.44% control success, Saxena *et al.* (1988).

It is evident from the above finding that both the higher concentrations, namely 0.075 and 0.05% of cholecalciferol are quite effective against *Mus musculus* (Byth) and its use on large scale will be boon for the farmers.

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7. ABOUT *DILLENIA AUREA* AND FEEDING BEHAVIOUR OF ELEPHANTS

I studied the Ecology of elephants of Dalma Wildlife Sanctuary for four years between 1989 to 1992. Dalma is situated on the Chhotanagpur Plateau of south Bihar. The essential feature in the physical aspect of the elephants' habitats in south Bihar, is the prevalence of plateaux and hills, often rising into mountains which rarely exceed 1000 m in elevation. The forest of Dalma belongs to a unique *Shorea-Cleistanthus-Croton* series (Gadgil and Meher-Homji 1986). The Champion and Seth (1968) classification shows the forest as consisting of dry peninsular hill sal (*Shorea robusta*), and northern mixed dry deciduous type. The forests of the Chhotanagpur plateau exhibit a variety of habitat types ranging from dry deciduous to evergreen though the study area constituted only dry deciduous type of forest.

Dillenia aurea is also found in the forest along with *Dillenia pentagyna* — the more common associate of sal (*Shorea robusta*) in other places. H.H. Haines in his two classics on the flora of this region, namely Forest Flora of Chhotanagpur (1910) and The Botany of Bihar and Orissa (1925), while describing *Dillenia aurea* writes "Fruit edible and is greedily eaten by wild elephants, which destroy the trees to obtain them." I monitored this species with special